

Attorney Docket No. P12401

REMARKS/ARGUMENTS**1.) Claim Amendments**

The Applicant has canceled claims 1-10 and added claims 11-21. Accordingly, claims 11-21 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2.) Claim Rejections – 35 U.S.C. § 103(a)

In paragraphs 2-3 of the Office Action, the Examiner rejected claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Shakhgildian (US 6,584,325). The Applicant has canceled claim 1 and rewritten it as claim 11 due to the substantial amendments necessary to place the claim in proper format for U.S. practice. The Applicant contends that claim 11 recites subject matter that is patentable in view of Shakhgildian. The Examiner's consideration of new claim 11 is respectfully requested.

Claim 11 recites a method of controlling congestion in a cellular telecommunication system having a plurality of radio base stations, wherein each base station serves one or more cells in the system. The method includes the steps of determining that a cell is congested; and restricting call access for new call setup requests from user equipments located in the congested cell. The restricting step includes the steps of determining by the base station serving the congested cell, carrier frequencies on which call accesses are permitted in the congested cell; and broadcasting by the base station serving the congested cell, a call admission message to the user equipments located in the congested cell. The call admission message indicates the carrier frequencies on which call accesses are permitted in the congested cell.

The Examiner points to Shakhgildian, column 2, line 57 through column 3, line 35 for showing a base station that sends an uplink interference level to subscriber units. The Examiner acknowledges that Shakhgildian does not disclose broadcasting permitted carrier frequencies, but asserts that it would be obvious to one of ordinary skill

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in the art that the subscriber unit knows which carrier frequency is associated with the interference level sent by the base station.

However, claim 11 recites the active step performed by the base station of restricting call access for new call setup requests from user equipments located in the congested cell. The base stations in Shakhgildian do not perform this active control function. Instead, the base stations merely report uplink interference levels and rely on the subscriber units to select the proper access channels. Thus, the Applicant contends that Shakhgildian does not teach or suggest the claimed invention. Basis for the restricting step is found in the originally filed specification on page 7, line 32 through page 8, line 2. It is also shown in FIG. 2, steps 22-24. Therefore, the allowance of claim 11 is respectfully requested.

Claims 12-14 depend from new claim 11 and recite further limitations in combination with the novel and unobvious elements of claim 11. Therefore, the allowance of claims 12-14 is respectfully requested.

In paragraphs 4-5 of the Office Action, the Examiner rejected claims 2-8 under 35 U.S.C. § 103(a) as being unpatentable over Shakhgildian and Goldman (GB 2173377). The Applicant has canceled claims 2-8.

The Examiner stated that Goldman discloses on page 1, line 55 through page 2, line 5, that the base station sends a list of voice channel assignments or frequencies which are available and leaves out the ones in which communication is denied or restricted. The Applicant contends that this passage from Goldman does not do this in the context of controlling congestion. The paragraph on page 1, lines 55-63 merely discusses how the frequencies in the frequency reuse plan are communicated to the mobile stations. The following paragraph on page 1, line 64 through page 2, line 5 states that if there is congestion in the first cell where the mobile attempts access, the base station may provide a list of alternative cells where the mobile may have more success in obtaining a voice channel assignment. This process of "directed retry" is different from the claimed invention in several respects. First, directed retry does not provide specific voice channel frequencies to the mobile for the retry. In addition, directed retry requires that the mobile first attempt a call access in the congested cell, and when redirected, the mobile must return to the control channel of the new cell and

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perform a second call access attempt. Even then, the second attempt may not be successful either. (See Goldman, page 2, lines 4-10). The claimed invention, on the other hand, broadcasts the permitted frequencies so that the user equipment knows the permitted frequencies prior to attempting the first call access. Thus, the first access is successful, and the excessive delays and increased processing of two call access attempts (at least one and possibly both unsuccessful) is avoided.

For these reasons, the Applicant contends that the combination of Shakhgildian and Goldman does not teach or suggest the invention recited in any of new claims 11-21.

In paragraphs 6-9 of the Office Action, the Examiner rejected claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Shakhgildian, and rejected claim 10 in view of Shakhgildian and Goldman. Claims 9 and 10 have been canceled.

Regarding new independent claim 15, the Applicant notes that the recited method is the same as claim 11 except that the call admission message indicates the carrier frequencies on which call accesses are restricted (rather than permitted) in the congested cell. The Applicant contends that new claim 15 is allowable for the same reasons discussed above for claim 11. Therefore, the allowance of claim 15 is respectfully requested.

Claims 16-19 depend from new claim 15 and recite further limitations in combination with the novel and unobvious elements of claim 15. Therefore, the allowance of claims 16-19 is respectfully requested.

New independent claim 20 recites a method of controlling congestion at call setup, which is performed in a base station in a cellular telecommunication system. The method includes the steps of determining that the cell is congested; defining a power threshold value for the total interference level of the congested cell; determining a total uplink interference level for uplink connections to the base station from user equipments located in the congested cell; and comparing the total uplink interference level with the power threshold value. If the total uplink interference level exceeds the power threshold value, the base station identifies carrier frequencies on which call accesses are permitted in cells neighboring the congested cell, and broadcasts to the user

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equipments located in the congested cell, the carrier frequencies on which call accesses are permitted in cells neighboring the congested cell.

The Applicant contends that a congestion control method that includes identifying carrier frequencies on which call accesses are permitted in neighboring cells, and broadcasting these carrier frequencies to the user equipments located in the congested cell, is not taught or suggested by Shakhgildian or Goldman. Therefore, the allowance of claim 20 is respectfully requested.

New independent claim 21 recites a method of obtaining call access, which is performed by a user equipment located in a congested cell in a cellular telecommunication system. The method includes the steps of receiving from a base station serving the congested cell, a call admission message that includes an indication of carrier frequencies on which call accesses are permitted in the congested cell and in cells neighboring the congested cell; and analyzing the call admission message to determine whether there is a carrier frequency in the congested cell on which call accesses are permitted. If there is a carrier frequency in the congested cell on which call accesses are permitted, the user equipment requests call access on the permitted carrier frequency. If there is not a carrier frequency in the congested cell on which call accesses are permitted, the user equipment analyzes the call admission message to determine whether there is a carrier frequency in a cell neighboring the congested cell on which call accesses are permitted. If there is a carrier frequency in a cell neighboring the congested cell on which call accesses are permitted, the user equipment requests call setup on the carrier frequency in the cell neighboring the congested cell on which call accesses are permitted.

The Applicant contends that a call access method that receives and analyzes a call admission message that includes an indication of carrier frequencies on which call accesses are permitted in the congested cell and in cells neighboring the congested cell, is not taught or suggested by Shakhgildian or Goldman. Therefore, the allowance of claim 21 is respectfully requested.

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3.) Examiner Objections

In paragraph 10 of the Office Action, the Examiner objected to claims 2, 3, and 5 due to informalities. The Examiner also objected to claims 1-10 because of the parenthetical information in the claims, which rendered them unclear. The Applicant has canceled claims 1-10, and has corrected all informalities in new claims 11-21. The Examiner's consideration of the new claims is respectfully requested.

4.) Abstract

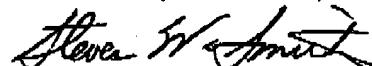
In paragraph 11 of the Office Action, the Examiner objected to the Abstract due to a reference to a figure. The Applicant has amended the abstract to delete the reference to the figure and to correct other informalities. The Examiner's consideration of the amended Abstract is respectfully requested.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,


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